UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,369	01/30/2004	Yutaka Sata	248315US2RD	4896

22850 7590 03/19/2009

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
BEHARRY, NOEL R	

ART UNIT	PAPER NUMBER
2446	

NOTIFICATION DATE	DELIVERY MODE
03/19/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/767,369	SATA ET AL.	
	Examiner	Art Unit	
	NOEL BEHARRY	2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/30/2004,04/30/2004,09/02/2004,10/11/2005,12/29/2005,10/10/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to Application No. 10/767,369 filed January 30th, 2004, claims 1-20 have been examined.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement filed **12/29/2006** and **10/10/2006** fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the filed documents does not contain any of the references cited on these IDS documents. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Particularly in this case, the abstract of the disclose recites legal phraseology "said".

5. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

6. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: **Claim 2** recites "wherein radio wave arrival ranges of said existence confirmation signal and said existence notice signal are longer than a distance obtained by multiplying a sum of said first and second time intervals by an average moving speed of said portable information terminal" but the specification does not disclose "multiplying a sum of said first and second time intervals by an average moving speed".

Claim Objections

7. **Claim 1** is objected to because of the following informalities: Claim 1, Line 30 recites "an existence notice signal reception unit configured to transmit said existence notice signal". Examiner interprets this limitation to be "an existence notice signal transmission unit configured to transmit said existence notice signal". Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. **Claim 2** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 2 recites "wherein radio wave arrival ranges of said existence confirmation signal and said existence notice signal are longer than a distance obtained by multiplying a sum of said first and second time intervals by an average moving speed of said portable information terminal" but the specification does not disclose "multiplying a sum of said first and second time intervals by an average moving speed".

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. **Claim 2** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Particularly it is unclear what is meant by the limitations recited in claim 2. What is meant by "radio wave arrival ranges"?

12. **Claim 2** recites the limitation "multiplying a sum of said first and second time intervals by an average moving speed" in Line 4-5. There is insufficient antecedent basis for this limitation in the claim.

13. **Claim 8** recites the limitation "said interval controller controls" in Line 5. There is insufficient antecedent basis for this limitation in the claim.

14. The term "upper" in **claim 11** is a relative term which renders the claim indefinite. The term "upper" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear what is meant by the limitation "authentication protocol upper than a link of Bluetooth".

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. **Claims 1-6, 10-14, and 18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Morillon** et al (**Morillon** hereafter) (US 6,522,027 B1) in view of **Hillyard** (US 2003/0027526 A1).

Regarding claim 1, Morillon teaches, an authentication processing system, comprising:

a portable information terminal; (identifier; 3 of Fig. 1, Col 3, Lines 33-47)

a terminal authentication apparatus which conducts authentication processing by air; (the authentication means preferably include a low frequency transmitter and a

radiofrequency receiver to enable data interchange over a certain distance with one or more identifiers, Col 3, Lines 33-47) and

an operation apparatus (electronic unit 1) which conducts a prescribed operation (unlocks the doors) when said terminal authentication apparatus has succeeded in authentication with said portable information terminal, (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7)

a first authentication unit configured to conduct a first authentication with said terminal authentication apparatus through said wireless link, (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7)

a second authentication unit configured to conduct said first authentication with said portable information terminal through said wireless link; (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7) and

a control command transmission unit configured to transmit a control command for said operation apparatus when said first and second authentication units succeed in said first authentication, (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7)

wherein said operation apparatus includes:

a control command reception unit configured to receive said control command; (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7) and

an operation conduction unit configured to conduct said prescribed operation based on said control command. (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7)

Morillon fails to explicitly teach,

wherein said portable information terminal includes:

an existence confirmation signal transmission unit configured to transmit an existence confirmation signal to confirm whether or not said terminal authentication apparatus exists, at a first time interval;

an existence notice signal reception unit configured to receive an existence notice signal transmitted from said terminal authentication apparatus in response to said existence confirmation signal;

a first link connection unit configured to establish a wireless link with said terminal authentication apparatus which has transmitted said existence notice signal when said existence notice signal is received; and

wherein said terminal authentication apparatus includes:

an existence confirmation signal reception unit set to a reception mode capable of receiving said existence confirmation signal at a second time interval only during a third time interval equal to or longer than said first time interval;

an existence notice signal reception unit configured to transmit said existence notice signal serving as response of said existence confirmation signal to said portable information terminal when said existence confirmation signal is received;

a second link connection unit configured to establish a wireless link with said portable information terminal after said portable information terminal receives said existence notice signal;

However, **Hillyard** teaches,

wherein said portable information terminal includes:

an existence confirmation signal transmission unit configured to transmit an existence confirmation signal to confirm whether or not said terminal authentication apparatus exists, at a first time interval; (device A performs fixed-duration inquiry 402C during a first period have a duration of 6.8 seconds, Par. 0050)

an existence notice signal reception unit configured to receive an existence notice signal transmitted from said terminal authentication apparatus in response to said existence confirmation signal (device B responds with its device address. device A can then page Device B using Device B's address, Par. 0051)

a first link connection unit configured to establish a wireless link with said terminal authentication apparatus which has transmitted said existence notice signal when said existence notice signal is received; (Par. 0032) and

wherein said terminal authentication apparatus includes:

an existence confirmation signal reception unit set to a reception mode capable of receiving said existence confirmation signal at a second time interval only during a

third time interval equal to or longer than said first time interval; (device B could receive inquiry 402D from device A, Par. 0051; Fig. 6, Par. 0050-0053)

an existence notice signal reception unit configured to transmit said existence notice signal serving as response of said existence confirmation signal to said portable information terminal when said existence confirmation signal is received; (device B responds with its device address, Par. 0051)

a second link connection unit configured to establish a wireless link with said portable information terminal after said portable information terminal receives said existence notice signal; (Par. 0032)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** to include the above limitations as taught by **Hillyard** in order to use Bluetooth communication for the advantage of reducing interference between other devices (Par. 0007).

Regarding claim 2, **Morillon** teaches,

wherein radio wave arrival ranges of said existence confirmation signal and said existence notice signal are longer than a distance obtained by multiplying a sum of said first and second time intervals by an average moving speed of said portable information terminal. (Col 3, Line 58 - Col 4, Line 7)

Morillon teaches, in Col 3, Line 58 - Col 4, Line 7, the signal being emitted at different power levels to form zones. These different zones determine what operation takes place upon successful authorization.

Regarding claim 3, **Morillon** teaches,

wherein at least one of said portable information terminal and said terminal authentication apparatus has a distance detection unit configured to detect a distance between said portable information terminal and said terminal authentication apparatus; (Col 3, Line 58 - Col 4, Line 17) and

said control command transmission unit transmits said control command to said operation apparatus when said first authentication is succeeded and the distance between said portable information terminal and said terminal authentication apparatus is equal to or less than a prescribed value. (Col 3, Line 58 - Col 4, Line 17)

Morillon teaches, in Col 3, Line 58 - Col 4, Line 17, different zones in which the electronic unit 1emits signals at different power level to form zones. These different zones determine what operation takes place upon successful authorization.

Regarding claim 4, **Morillon** teaches,

wherein said distance detection unit detects the distance based on field intensity of radio wave transmitted between said portable information terminal and said terminal authentication apparatus. (power of this signal; Col 3, Line 58 - Col 4, Line 17)

Regarding claim 5, **Morillon** teaches,

wherein at least one of said terminal authentication apparatus and said operation unit has an approach detector which detects that said portable information terminal or a user thereof has approached; (Col 3, Line 58 - Col 4, Line 17) and

said operation conduction unit conducts said prescribed operation when said first authentication is succeeded and said control command is received by said control command reception unit, and said approach detector has detected approach within a prescribed distance. (Col 3, Line 58 - Col 4, Line 17)

Regarding claim 6,

wherein said approach detector is a contact detection sensor which detects that the user of said portable information terminal has contacted said terminal authentication apparatus or said authentication operation conduction apparatus. (pulls on the handle; Col 3, Line 58 - Col 4, Line 17)

Regarding claim 10, **Morillon** teaches,

wherein said portable information terminal has a third authentication unit configured to conduct a second authentication with said terminal authentication apparatus after said terminal authentication apparatus has transmitted said control command to said operation apparatus; (Col 4, Lines 8-7) and

said terminal authentication apparatus has a fourth authentication unit configured to conduct said second authentication with said portable information terminal after transmitting said control command to said operation apparatus. (Col 4, Lines 8-7)

Morillon teaches, in (Col 4, Lines 8-7), that a second authentication is done between the electronic unit 1 and the identifier 3 once the passenger is in the car to determine if the user is authorized to start the engine.

Regarding claim 11, **Morillon** teaches,

said second authentication is an authentication by an authentication protocol upper than a link of Bluetooth. (the authentication means preferably include a low frequency transmitter and a radiofrequency receiver to enable data interchange over a certain distance with one or more identifiers, Col 3, Lines 33-47)

Morillon fails to explicitly teach,

wherein said first authentication is a link authentication of Bluetooth;

However, **Hillyard** teaches,

wherein said first authentication is a link authentication of Bluetooth; (Par. 005-0014)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** to include the above limitations as taught by **Hillyard** in order to use Bluetooth communication for the advantage of reducing interference between other devices (Par. 0007).

Regarding claim 12, **Morillon** teaches,

wherein said prescribed operation is to lock and unlock a door of a vehicle. (Col 3, Lines 48-54)

Regarding claim 13, Morillon teaches,

an authentication unit configured to conduct authentication with said portable information terminal through said wireless link; (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7) and

a control command transmitter which transmits a control command when said authentication has been succeeded. (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7)

Morillon fails to teach,

an authentication apparatus, comprising:

an existence confirmation signal receiver which in order to receive an existence confirmation signal outputted from a portable information terminal at a first time interval, is set to a reception mode capable of receiving said existence confirmation signal at a second time interval, only during a third time interval equal to or longer than said first time interval;

an existence notice signal transmitter which transmits said existence notice signal serving as response of said existence confirmation signal to said portable information terminal when said existence notice signal is received;

a link connection unit configured to establish a wireless link with said portable information terminal after said existence notice signal has been received by said portable information terminal;

However, **Hillyard** teaches,

an authentication apparatus, comprising:

an existence confirmation signal receiver which in order to receive an existence confirmation signal outputted from a portable information terminal at a first time interval, is set to a reception mode capable of receiving said existence confirmation signal at a second time interval, only during a third time interval equal to or longer than said first time interval; (device A performs fixed-duration inquiry 402C during a first period have a duration of 6.8 seconds, Par. 0050)

an existence notice signal transmitter which transmits said existence notice signal serving as response of said existence confirmation signal to said portable information terminal when said existence notice signal is received; (device B responds with its device address, Par. 0051)

a link connection unit configured to establish a wireless link with said portable information terminal after said existence notice signal has been received by said portable information terminal; (Par. 0032)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** to include the above limitations as taught by **Hillyard** in order to use Bluetooth communication for the advantage of reducing interference between other devices (Par. 0007).

Regarding claim 14, **Morillon** teaches,

further comprising a distance detection unit configured to detect a distance between said portable information terminal and said terminal authentication apparatus, (Col 3, Line 58 - Col 4, Line 17)

wherein said control command transmission unit transmits said control command to said operation apparatus when said first authentication is succeeded and the distance between said portable information terminal and said terminal authentication apparatus is equal to or less than a prescribed value. (Col 3, Line 58 - Col 4, Line 17)

Morillon teaches, in Col 3, Line 58 - Col 4, Line 17, different zones in which the electronic unit 1emits signals at different power level to form zones. These different zones determine what operation takes place upon successful authorization.

Regarding claim 18, Morillon teaches,

wherein said prescribed operation is to lock and unlock a door of a vehicle. (Col 3, Lines 48-54)

Regarding claim 19, Morillon teaches,

an authentication processing method of an authentication processing system comprising a portable information terminal; (identifier; 3 of Fig. 1, Col 3, Lines 33-47)

a terminal authentication apparatus which conducts authentication processing by air; (the authentication means preferably include a low frequency transmitter and a radiofrequency receiver to enable data interchange over a certain distance with one or more identifiers, Col 3, Lines 33-47) and

an operation apparatus which conducts a prescribed operation when said terminal authentication apparatus has succeeded in authentication with said portable information terminal, (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7)

conducting a first authentication with said terminal authentication apparatus through said wireless link, (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7)

conducting the authentication with said portable information terminal through said wireless link; (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7) and

transmitting a control command for said operation apparatus when the authentication is succeeded, (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7)

wherein said operation apparatus includes:

receiving said control command; (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7) and

conducting said prescribed operation based on said control command. (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7)

Morillon fails to explicitly teach,

wherein said portable information terminal includes:

transmitting an existence confirmation signal to confirm whether or not said terminal authentication apparatus exists, at a first time interval;

receiving an existence notice signal transmitted from said terminal authentication apparatus in response to said existence confirmation signal;

establishing a wireless link with said terminal authentication apparatus which has transmitted said existence notice signal when said existence notice signal is received; and

wherein said terminal authentication apparatus includes:

setting to a reception mode capable of receiving said existence confirmation signal at a second time interval only during a third time interval equal to or longer than said first time interval;

transmitting said existence notice signal serving as response of said existence confirmation signal to said portable information terminal when said existence confirmation signal is received;

establishing a wireless link with said portable information terminal after said portable information terminal receives said existence notice signal;

conducting the authentication with said portable information terminal through said wireless link; and

transmitting a control command for said operation apparatus when the authentication is succeeded,

wherein said operation apparatus includes:

receiving said control command; and

conducting said prescribed operation based on said control command.

However, **Hillyard** teaches,

wherein said portable information terminal includes:

transmitting an existence confirmation signal to confirm whether or not said terminal authentication apparatus exists, at a first time interval; (device A performs fixed-duration inquiry 402C during a first period have a duration of 6.8 seconds, Par. 0050)

receiving an existence notice signal transmitted from said terminal authentication apparatus in response to said existence confirmation signal; (device B responds with its device address. device A can then page Device B using Device B's address, Par. 0051)

establishing a wireless link with said terminal authentication apparatus which has transmitted said existence notice signal when said existence notice signal is received; (Par. 0032) and

wherein said terminal authentication apparatus includes:

setting to a reception mode capable of receiving said existence confirmation signal at a second time interval only during a third time interval equal to or longer than said first time interval; (device B could receive inquiry 402D from device A, Par. 0051; Fig. 6, Par. 0050-0053)

transmitting said existence notice signal serving as response of said existence confirmation signal to said portable information terminal when said existence confirmation signal is received; (device B responds with its device address, Par. 0051)

establishing a wireless link with said portable information terminal after said portable information terminal receives said existence notice signal; (Par. 0032)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** to include the above limitations as taught by **Hillyard** in order to use Bluetooth communication for the advantage of reducing interference between other devices (Par. 0007).

Regarding claim 20, Morillon teaches,

conducting the authentication with said portable information terminal through said wireless link; (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7) and

transmitting a control command for said operation apparatus when the authentication is succeeded, in order to allow said operation apparatus to conduct a prescribed operation. (if the identifier is authenticated, the electronic unit 1 then unlocks the doors 4, 5 and the trunk lid 6, Col 3, Line 58 - Col 4, Line 7)

Morillon fails to explicitly teach,

an authentication processing program, allows a computer to execute the steps of:

in order to an existence confirmation signal outputted from a portable information terminal at first time interval, setting to a reception mode capable of receiving said existence confirmation signal at a second time interval only during a third time interval equal to or longer than said first time interval;

transmitting said existence notice signal serving as response of said existence confirmation signal to said portable information terminal when said existence confirmation signal is received;

establishing a wireless link with said portable information terminal after said portable information terminal receives said existence notice signal;

However, **Hillyard** teaches,

an authentication processing program, allows a computer to execute the steps of:

in order to an existence confirmation signal outputted from a portable information terminal at first time interval, setting to a reception mode capable of receiving said existence confirmation signal at a second time interval only during a third time interval equal to or longer than said first time interval; (device B could receive inquiry 402D from device A, Par. 0051; Fig. 6, Par. 0050-0053)

transmitting said existence notice signal serving as response of said existence confirmation signal to said portable information terminal when said existence confirmation signal is received; (device B responds with its device address, Par. 0051)

establishing a wireless link with said portable information terminal after said portable information terminal receives said existence notice signal; (Par. 0032)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** to include the above limitations as taught by **Hillyard** in order to use Bluetooth communication for the advantage of reducing interference between other devices (Par. 0007).

17. **Claims 7-9, and 15-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Morillon** in view of **Hillyard** in further view of **Tada** (US 2001/0019956 A1)

Regarding claim 7, **Morillon** and **Hillyard** teaches,

that said third time interval is longer than said first time interval. (**Hillyard**; Fig. 6; Par. 0050-0053)

Morillon and **Hillyard** fails to explicitly teach,

wherein at least one of said portable information terminal and said terminal authentication apparatus has an interval controller which controls at least one of said first, second and third time intervals.

However, **Tada** teaches,

wherein at least one of said portable information terminal and said terminal authentication apparatus has an interval controller which controls at least one of said first, second and third time intervals. (Par. 0106)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** and **Hillyard** to include the above limitations as taught by **Tada** in order to adjust the time intervals based on the battery residual capacity (Par. 0106).

Regarding claim 8, **Morillon** and **Hillyard** teaches,

that said first and second time intervals are equal to each other, or said third time interval is longer than said first time interval. (**Hillyard**; Fig. 6; Par. 0050-0053)

Morillon and **Hillyard** fails to explicitly teach,

wherein at least one of said portable information terminal and said terminal authentication apparatus has a battery monitor which detects remaining electric capacity of a battery; and

said interval controller controls at least one of said first, second and third time intervals, in accordance with the remaining electric capacity of the battery detected by said battery monitor.

However, **Tada** teaches,

wherein at least one of said portable information terminal and said terminal authentication apparatus has a battery monitor which detects remaining electric capacity of a battery; (Par. 0106) and

said interval controller controls at least one of said first, second and third time intervals, in accordance with the remaining electric capacity of the battery detected by said battery monitor. (Par. 0106)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** and **Hillyard** to include the above limitations as taught by **Tada** in order to adjust the time intervals based on the battery residual capacity (Par. 0106).

Regarding claim 9, **Morillon** and **Hillyard** teaches,

that said first and second time intervals are equal to each other, or said third time interval is longer than said first time interval. (**Hillyard**; Fig. 6; Par. 0050-0053)

Morillon and **Hillyard** fails to explicitly teach,

wherein at least one of said portable information terminal and said terminal authentication apparatus has a time measurement unit configured to measure a time elapsed from when it became impossible to detect a communication partner, or a time elapsed from when the wireless link with said terminal authentication apparatus is cut off; and

said interval controller controls at least one of said first, second and third time intervals.

However, **Tada** teaches,

wherein at least one of said portable information terminal and said terminal authentication apparatus has a time measurement unit configured to measure a time elapsed from when it became impossible to detect a communication partner, (Par. 0084-0093) and

said interval controller controls at least one of said first, second and third time intervals. (Par. 0106)

Examiner interprets optimization being performed on the basis of a traffic state as a time condition being unable to detect a communication partner which causes resources to be wasted. As a result the interval times are adjusted in order to prevent waste of resources.

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** and **Hillyard** to include the above limitations as taught by **Tada** in order to prevent a waste of resources (Par. 0085).

Regarding claim 15, **Morillon** and **Hillyard** teaches,

that said third time interval is longer than said first time interval. (**Hillyard**; Fig. 6; Par. 0050-0053)

Morillon and **Hillyard** fails to explicitly teach,

further comprising an interval controller which controls at least one of said first, second and third time intervals.

However, **Tada** teaches,

further comprising an interval controller which controls at least one of said first, second and third time intervals. (Par. 0106)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** and **Hillyard** to include the above limitations as taught by **Tada** in order to adjust the time intervals based on the battery residual capacity (Par. 0106).

Regarding claim 16, **Morillon** and **Hillyard** teaches,

that said first and second time intervals are equal to each other, or said third time interval is longer than said first time interval. (**Hillyard**; Fig. 6; Par. 0050-0053)

Morillon and **Hillyard** fails to explicitly teach,

further comprising a battery monitor which detects remaining electric capacity of a battery, (Par. 0106)

wherein said interval controller controls at least one of said first, second and third time intervals, in accordance with the remaining electric capacity of the battery detected by said battery monitor. (Par. 0106)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** and **Hillyard** to include the above limitations as taught by **Tada** in order to adjust the time intervals based on the battery residual capacity (Par. 0106).

Regarding claim 17, **Morillon** and **Hillyard** teaches,

that said first and second time intervals are equal to each other, or said third time interval is longer than said first time interval. (**Hillyard**; Fig. 6; Par. 0050-0053)

Morillon and **Hillyard** fails to explicitly teach,

further comprising a time measurement unit configured to measure a time elapsed from when it became impossible to detect a communication partner, or a time elapsed from when the wireless link with said terminal authentication apparatus is cut off,

wherein said interval controller controls at least one of said first, second and third time intervals.

However, **Tada** teaches,

further comprising a time measurement unit configured to measure a time elapsed from when it became impossible to detect a communication partner, or a time elapsed from when the wireless link with said terminal authentication apparatus is cut off, (Par. 0084-0093)

wherein said interval controller controls at least one of said first, second and third time intervals. (Par. 0106)

Examiner interprets optimization being performed on the basis of a traffic state as a time condition being unable to detect a communication partner which causes resources to be wasted. As a result the interval times are adjusted in order to prevent waste of resources.

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Morillon** and **Hillyard** to include the above limitations as taught by **Tada** in order to prevent a waste of resources (Par. 0085).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOEL BEHARRY whose telephone number is (571)270-5630. The examiner can normally be reached on M-T 10-2.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. B./
Examiner, Art Unit 2446

/Benjamin R Bruckart/
Examiner, Art Unit 2446